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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,328	04/01/2004	Qiang Ding	021288-001610	1133
20350 7590 08/26/2008 TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834				
EXAMINER				
BALASUBRAMANIAN, VENKATARAMAN				
ART UNIT		PAPER NUMBER		
1624				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/817,328

Applicant(s)

DING ET AL.

Examiner/Venkataraman
Balasubramanian/**Art Unit**

1624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,6-12, 17 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,6-12, 17 and 19-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The applicants' response, which included cancellation of claims 2-5, 13-16, 18 and addition of new claim 21 under 37 CFR 1.131, filed 7/30/2008 under 37 CFR 1.116 in reply to the final rejection has been considered. In view of applicants' response, the 112 first paragraph rejection has been obviated. In addition, due cancellation of claims 57-72 in the copending application 10/270,030 before allowance, the obviousness double patenting rejection made in the previous office action has been obviated. Upon further consideration, the Finality of the previous office action is withdrawn to apply the following new grounds of rejections. Claims 1, 6-12, 17 and 19-21 are now pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 6-12, 17 and 19-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. Recitation of "isomer" thereof renders claim 1 and its dependent claims 6-12, 17 and 19 indefinite as it is not clear what this isomer is and how it originates from the structure of formula I.
2. Recitation of " and the aryl is substituted with..." in R³ of claim 6 renders claim 6 and claim 7 indefinite as there is no such aryl group in the variable group R³.
3. Recitation of "wherein the aryl..." in R³ of claim 7 renders claim 7 and its dependent claim 8 indefinite as there is no such aryl group in the variable group R³.

4. Recitation of "wherein the aryl..." in R^3 of claim 8 renders claim 8 and its dependent claim 9 indefinite as there is no such aryl group in the variable group R^3 .
5. Recitation of "wherein the aryl..." in R^3 of claim 9 renders claim 9 and its dependent claim 10 indefinite as there is no such aryl group in the variable group R^3 .
6. Recitation of "wherein the aryl or heteroaryl" in R^3 of claim 10 renders claim 10 indefinite as there is no such aryl heteroaryl group in the variable group R^3 .
7. Claim 7 and 8-10 are improper dependent claims as they fail to further limit claim 6 on which they are dependent. Note there is no aryl in the R^3 of claim 6, while claim 7 and 8-10 include such a group which is clearly outside the scope of claim 6.
8. Claim 20 and claim 21 are improper dependent claim as claim 20 fails to further limit claim 1 on which it is dependent. Note the third species is outside the scope of claim 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6-8, 11 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Kiyama WO 2003016275; US 2004229909 used for English Translation.

Kiyama teaches several pyrimidine compounds for treating HIV which include compounds and composition generically claimed in the instant claims. See formula I shown in page 1 and note the definition of various variables. Note when the C ring is a

pyrimidine, compounds and composition taught by Kiyama include instant compounds and composition generically claimed in the instant claims. See pages 1-50 for various preferred embodiments and process of making. See pages 50-239 for examples of large number of compounds made. Especially see pages 99-101, 102-106 and 112-119 for pyrimidine compounds.

Claims 1, 6-8, 11 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoffmann DE 4031798.

Hoffmann teaches several pyrimidines bearing pyridyl groups as fungicides, which include compounds and composition of instant claims generically claimed in the instant invention. See page 2, formula I and note the definition of various variable groups. Note with the given definition of R^6 = phenyl, phenylalkyl or NR^8R^9 , compounds taught by Hoffmann include instant compounds. See pages 2-17 including Table shown therein for the preferred embodiments, process of making and compounds made. Especially see compound 31 shown in Table 1.

Claims 1, 6-8, 11 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamanaka, Chemical & Pharmaceutical Bulletin, 28(5), 1526-1533, 1980; CA 94: 121441, 1981. CAPLUS Abstract provided.

See compounds nine compounds shown in the CAPLUS abstract.

Claims 1, 6, 9, 10 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Cuccia et al., US 6,281,219 .

Cuccia et al. teaches several pyrimidine compounds useful as insecticides, which include instant compounds. See column 1, formula 1 and note the definition of various

variable groups. Especially note the definition of phenyl-X₁, phenyl-X₂ and R¹ groups clearly overlaps with the definition of instant R¹, L-R³, R² and R⁴ groups and compounds taught by Cuccia et al. therefore include instant compounds. See column 2-17 for further details of the invention including the process of making which includes instant process. See column 18-23 for species of compounds, which include instant compounds.

This rejection is same as made previously. Applicants' amendment to R³ to include C₆₋₁₀aryl-C₀₋₄alkyl had necessitated this rejection. With this given R³ the compounds taught by the prior art anticipate and render obvious the compounds of instant claims as noted above.

Hence, this rejection is proper and is reapplied.

Claims 1, 6, 9, 10 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Wood et al., US 6,306,866 .

Wood et al. teaches several pyrimidine compounds useful as insecticides, which include instant compounds. See column 3-4, formula 1A, 1B and 1B1 and note the definition of A-X, B, and R¹ groups. Especially note the definition of A-X, B, and R¹ groups clearly overlaps with the definition of instant the definition of R¹, L-R³, R² and R⁴ groups and compounds taught by Wood et al. therefore include instant compounds. See entire document for further details of the invention. See column 6-14, especially Table I-III, for species of compounds, which include instant compounds.

This rejection is same as made previously. Applicants' amendment to R³ to include C₆₋₁₀aryl-C₀₋₄alkyl had necessitated this rejection. With this given R³ the

compounds taught by the prior art anticipate and render obvious the compounds of instant claims as noted above.

Hence, this rejection is proper and is reapplied.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 6-11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyama WO 2003016275; US 2004229909 used for English Translation.

Teaching of Kiyama as discussed in the above 102 rejection is incorporated herein. As noted above, Kiyama teaches several pyrimidine compounds for treating HIV which include compounds and composition generically claimed in the instant claims. See formula I shown in page 1 and note the definition of various variables. Note when the C ring is a pyrimidine, compounds and composition taught by Kiyama include instant

compounds and composition generically claimed in the instant claims. See pages 1-50 for various preferred embodiments and process of making. See pages 50-239 for examples of large number of compounds made. Especially see pages 99-101, 102-106 and 112-119 for pyrimidine compounds.

Kiyama differs in not exemplifying all compounds generically embraced in the compound of formula I. However, Kiyama teaches equivalency of those compounds taught in pages 50-239 including the pyrimidine compounds of pages 99-101, 102-106 and 112-119 with those generically recited in column 1 for compound of formula I. See definition of various variable groups. Kiyama clearly provides guidance to make pyrimidine compounds among others.

Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to make compounds using the teachings of Kiyama and expect resulting compounds to possess the uses taught by the art in view of the equivalency teaching outline above.

Claims 1, 6-11, 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffmann DE 4031798.

Teaching of Hoffmann as discussed in the above 102 rejection is incorporated herein. As noted above, Hoffmann teaches several pyrimidines bearing pyridyl groups as fungicides, which include compounds and composition of instant claims generically claimed in the instant invention. See page 2, formula I and note the definition of various variable groups. Note with the given definition of R^6 = phenyl, phenylalkyl or NR^8R^9 , compounds taught by Hoffmann include instant compounds. See pages 2-17 including

Table shown therein for the preferred embodiments, process of making and compounds made. Especially see compound 31 shown in Table 1.

Hoffmann differs in not exemplifying all compounds generically embraced in the compound of formula I. See compound of formula I and note the definition of various variable groups. However, Hoffmann teaches equivalency of those compounds taught in pages 2-17 including the pyrimidine compounds of Table 1, especially compound 31. Hoffmann clearly provides guidance to make pyrimidine compounds.

Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to make compounds using the teachings of Hoffmann and expect resulting compounds to possess the uses taught by the art in view of the equivalency teaching outline above.

Claims 1, 6, 9, 10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cuccia et al., US 6,281,219.

Teachings of Cuccia et al. as discussed in the above 102 rejection is incorporated herein. Cuccia et al. teaches several pyrimidine compounds useful as insecticides, which include instant compounds. See column 1, formula 1 and note the definition of various variable groups. Especially note the definition of phenyl-X₁, phenyl-X₂ and R¹ groups clearly overlaps with the definition of instant R¹, L-R³, R² and R⁴ groups and compounds taught by Cuccia et al. therefore include instant compounds. See column 2-17 for further details of the invention including the process of making which include instant process. See column 18-23 for species of compounds, which include instant compounds.

Cuccia et al. differs from the instant claims in not exemplifying all compounds generically embraced in the formula I shown in column 1.

However, Cuccia et al. teaches equivalency of those compounds taught in examples 1-39 with those generically recited for compound of formula I in column 1.

Thus it would have been obvious to one having ordinary skill in the art at the time of the invention was made to make compounds using the teachings of Cuccia et al and expect resulting compounds to possess the uses taught by the art in view of the equivalency teaching outline above.

This rejection is same as made previously. Applicants' amendment to R³ to include C₆₋₁₀aryl-C₀₋₄alkyl had necessitated this rejection. With this given R³ the compounds taught by the prior art anticipate and render obvious the compounds of instant claims as noted above.

Hence, this rejection is proper and is reapplied.

Claims 1, 6, 9, 10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al., US 6,306,866.

Teachings of Wood et al. as discussed in the above 102 rejection is incorporated herein. Wood et al. teaches several pyrimidine compounds useful as insecticides, which include instant compounds. See column 3-4, formula 1A, IB and IB1 and note the definition of A-X, B, and R¹ groups. Especially note the definition of A-X, B, and R¹ groups clearly overlaps with the definition of instant the definition of R¹, L-R³, R² and R⁴ groups and compounds taught by Wood et al. therefore include instant compounds. See

entire document for further details of the invention. See column 6-14, especially Table I-III, for species of compounds, which include instant compounds.

Wood et al. differs from the instant claims in not exemplifying all compounds generically embraced in the formula IA, IB and IB1 shown in column 3-4.

However, Wood et al. teaches equivalency of those compounds taught in examples 1-5 with those generically recited for compound of formula I in column 3-4.

Thus it would have been obvious to one having ordinary skill in the art at the time of the invention was made to make compounds using the teachings of Wood et al and expect resulting compounds to possess the uses taught by the art in view of the equivalency teaching outline above.

This rejection is same as made previously. Applicants' amendment to R³ to include C₆₋₁₀aryl-C₀₋₄alkyl had necessitated this rejection. With this given R³ the compounds taught by the prior art anticipate and render obvious the compounds of instant claims as noted above.

Hence, this rejection is proper and is reapplied.

Conclusion

Any inquiry concerning this communication from the examiner should be addressed to Venkataraman Balasubramanian (Bala) whose telephone number is (571) 272-0662. The examiner can normally be reached on Monday through Thursday from 8.00 AM to 6.00 PM. The Supervisory Patent Examiner (SPE) of the art unit 1624 is James O. Wilson, whose telephone number is 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned (571) 273-8300. Any

inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAG. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-2 17-9197 (toll-free).

/Venkataraman Balasubramanian/
Primary Examiner, Art Unit 1624